

REMARKS

The above amendment corrects an obvious typographical error in claim 1.

Further, Applicants wish to discuss the Blakeney reference applied against claims 11 and 12 in further detail.

Step (e) in claim 11 of the present application is clearly defined as "a heat treatment to effect diminution of the pattern size by thermal flow. . . .". Namely, the object of step (e) is to accomplish size reduction of the resist pattern size by a heat treatment.

In contrast, Blakeney is silent about a step having such an object even if Blakeney mentions "thermal flow temperature" (col. 2, line 9).

According to Blakeney, col. 1, line 64 to col. 2, line 35, his invention is a novolak resin which is formulated to be resistant against pattern profile degradation, such as image distortion, by the phenomenon of thermal flow. Blakeney is absolutely silent about step (e) of the present invention.

In short, the disclosure of Blakeney teaches the phenomenon of thermal flow merely as something to be avoided by improving the novolak resin while the present invention is directed to the utilization of the thermal flow phenomenon in order to accomplish the intentional size reduction of a resist pattern.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

For the foregoing reasons taken with those set forth in the response of February 6, 2003, allowance is respectfully requested.

Respectfully submitted,

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February 20, 2003

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claim 1 has been amended as follows.

1. (Twice Amended) A positive-working photoresist composition which comprises, as a uniform solution in an organic solvent:

(A) 100 parts by weight of a hydroxystyrene-based polymer which is a combination of:

(A1) a first polyhydroxystyrene resin having phenolic hydroxyl groups a part of which are substituted for the hydrogen atoms thereof by acid-dissociable alkoxyalkyl groups; and

(A2) a second polyhydroxystyrene resin having phenolic hydroxyl groups a part of which are substituted for the hydrogen atoms thereof by acid-dissociable groups selected from the group [consistent] consisting of tertiary alkoxycarbonyl groups, tertiary alkyl groups and cyclic ether groups, and

wherein the weight proportion of the first polyhydroxystyrene resin (A1) to the second polyhydroxystyrene resin (A2) is in range from 2:8 to 9:1;

(B) from 1 to 20 parts by weight of a radiation-sensitive acid-generating compound;

(C) from 0.1 to 25 parts by weight of a polyvinyl ether compound susceptible to crosslinking;

(D) from 0.01 to 5 parts by weight of a carboxylic acid consisting of atoms of carbon, oxygen and hydrogen alone; and

(E) from 0.01 to 1 part by weight of an amine compound.